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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,980	12/15/2003	Ramadas Lakshmikanth Pai	15137US02	4226

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EXAMINER	
FRANKLIN, RICHARD B	

ART UNIT	PAPER NUMBER
2181	

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/735,980	PAI ET AL.	
	Examiner	Art Unit	
	Richard Franklin	2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

FRITZ FLEMING
5/8/2006 PRIMARY EXAMINER Supervisory
GROUP 2100

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 17 have been examined.

Response to Arguments

2. Applicant's arguments with respect to claims 1 and 9 have been considered but are moot in view of the new ground(s) of rejection. The new grounds of rejection are necessitated by applicant's amendment of the claims.

Oath/Declaration

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

> The oath or declaration is defective because:
> It does not identify the citizenship of each inventor.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 – 8 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 1 recites "receiving a command to provide the plurality of sequential data words, the plurality of sequential data words comprises a first data word and a last data

word ***occupying an amount of memory in a first memory***, and one or more data words between the first data word and the last data word" (emphasis added). It appears that Applicant intended to claim that the "amount of memory" included not only the first and last data words, but also all the data words in between. However, currently the limitation states that the amount of memory includes only the first and last data words. Therefore, the limitation is not clear as to what is included in the "amount of memory."

The Examiner has interpreted the limitation to include all of the data words in the "amount of memory."

6. Claim 3 recites the limitation "a memory" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the first memory of claim 1, the second memory of claim 1, or a new memory.

The Examiner has interpreted the limitation to refer to the second memory of claim 1.

7. Claim 4 recites the limitation "the memory" in line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear if the limitation is referring to the first memory of claim 1 or the second memory of claim 1.

The Examiner has interpreted the limitation to refer to the second memory of claim 1.

8. Claim 17 recites the limitation "the first memory" in line 21 of the claim. There is insufficient antecedent basis for this limitation in the claim.

The Examiner has interpreted the limitation to refer to the compressed data buffer that is previously recited in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1 – 4, 7, 9 – 12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4,704,641 (hereinafter Stohs) in view of US Patent No. 6,795,208 (hereinafter Tanaka).

As per claims 1 and 9, Stohs teaches a method for providing a plurality of sequential data words (Stohs; Abstract), said method comprising: receiving a command (Stohs; Figure 1 Item 108, Col 7 Lines 16 – 25) to provide the plurality of sequential data words, the plurality of sequential data words comprises a first data word and a last data word, and one or more data words between the first data word and the last data word, where the first, last, and in between data words occupies an amount of memory in a first memory (Stohs; Figure 2 Item 203, Col 5 Lines 13 – 28); fetching a sequential portion of the sequential data words (Stohs; Col 6 Lines 18 – 35), said sequential portion comprising a first intermediate word, the last word, and one or more data words

between the intermediate word and the last word (Stohs; Figure 2 Item 203, Col 5 Lines 13 – 28); storing the sequential portion in a second memory (Stohs; Figure 3 Item 305, Col 6 Lines 35 – 55); transmitting at least a portion of the last data word (Stohs; Col 9 Lines 36 – 41); and transmitting at least a portion of the intermediate data words after transmitting at least the portion of the last data word (Stohs; Col 9 Lines 36 – 41).

Stohs does not teach wherein the second memory is smaller than the first memory.

However, Tanaka teaches wherein the capacity of the second memory is smaller than the first memory and data is transferred into the second memory after it is compressed (Tanaka; Col 2 Lines 5 – 12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Stohs to include the smaller memory because doing so would allow for a smaller physical size of the system.

As per claims 2 and 10, Stohs also teaches fetching another sequential portion of the sequential data words (Stohs; Figure 3 Items 303 – 306, Col 6 Lines 56 – 68), the another sequential portion comprising a second intermediate data word, immediately followed by one or more data words, immediately followed by a third intermediate data word, the third intermediate data word immediately preceding the first intermediate word (Stohs; Figure 3 Items 303 – 306, Col 6 Lines 56 – 68); storing the another sequential portion (Stohs; Figure 3 Items 303 – 306, Col 6 Lines 56 – 68); transmitting at least a portion of the third intermediate word; and transmitting at least a portion of the second

intermediate word after transmitting at least the portion of the third intermediate word (Stohs; Col 9 Lines 36 – 41).

As per claims 3 and 11, Stohs teaches storing the sequential portion in a memory, the memory having a beginning address and an ending address, and wherein at least the portion of the last data word is stored at the ending address and wherein at least the portion of the first intermediate word is stored in the beginning address (Stohs; Figure 6 Item 111, Col 7 Line 56 – Col 8 Line 6).

As per claims 4 and 12, Stohs also teaches wherein the memory is characterized by a width, and the data words are characterized by a width, the width of the memory being smaller than the width of the data words (Stohs; Figure 6 Items 401a and 401z, Col 6 Lines 56 – 68).

As per claims 7 and 15, Stohs teaches wherein the one or more data words comprise a predetermined number of data words (Stohs; Figure 2 Item 203, Col 5 Lines 13 – 28).

10. Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4,704,641 (hereinafter Stohs) in view of US Patent No. 6,795,208 (hereinafter Tanaka) and further in view of US Patent No. 6,876,705 (hereinafter Katsavounidis).

As per claims 8 and 16, Stohs in combination with Tanaka teaches the system of claims 1 and 9 (see rejection of claims 1 and 9 above).

Stohs in combination with Tanaka does not teach wherein the plurality of sequential data words stores a video packet.

However, Katsavounidis teaches a circuit adapted to recover useful data from a video packet that is at least partially corrupted (Katsavounidis; Figures 7A and 7B Items 700 and 720, Col 2 Lines 44 – 60, and Col 3 Lines 9 – 38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Stohs in combination with Tanaka to include storing a video packet because doing so allows for decoding a package in both forward and backwards directions to be used to locate a position of an error (Katsavounidis; Col 2 Lines 28 – 43).

11. Claims 5 – 6, and 13 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4,704,641 (hereinafter Stohs) in view of US Patent No. 6,795,208 (hereinafter Tanaka) and further in view of US Patent No. 4,608,633 (hereinafter Boothroyd).

As per claims 5 and 13, Stohs in combination with Tanaka teaches the system of claims 1 and 9 (see rejection of claims 1 and 9 above).

Stohs in combination with Tanaka is silent wherein the last data word comprises at least the portion of the last data word and at least another portion, wherein at least the portion comprises the least significant bits of the last data word, and wherein the at

least another portion comprises the most significant bits of the last data word, and wherein storing the portion further comprises: storing the at least another portion of the last data word at an address preceding the ending address.

However, Boothroyd teaches operand data loaded into stack A (Boothroyd; Figure 12A Item 330) and stack B (Boothroyd; Figure 12A Item 331) comprising at least the portion of the last data word and at least another portion (Boothroyd; Figure 12A Items 330 and 331, Col 12 Lines 10 – 51, Col 13 Lines 32 – 50); and storing the at least another portion of the last data word at an address preceding the ending address (Boothroyd; Figure 12A Items 330 and 331).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Stohs in combination with Tanaka to include the steps above because doing so would allow a method for reading operand data stored in a temporary storage memory in a forward or reverse direction, wherein the operand data can be multiple variable length operands (Boothroyd; Col 1 Lines 44 – 50).

As per claims 6 and 14, Boothroyd also teaches transmitting the at least another portion of the last word after transmitting at least the portion of the last word (Boothroyd; Col 13 Line 51 – Col 14 Line 26).

12. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4,704,641 (hereinafter Stohs) in view of US Patent No. 6,795,208

(hereinafter Tanaka) further in view of US Patent No 6,876,705 (hereinafter Katsavounidis) and further in view of US Patent No. 4,608,633 (hereinafter Boothroyd).

As per claim 17, Stohs teaches a system comprising a compressed data buffer comprising a plurality of sequential data words (Stohs; Figure 2 Item 111, Figure 3 Item 305, Col 6 Lines 35 – 55); a direct memory access engine (Stohs; Figure 1 Item 104, Col 4 Lines 34 – 41) comprising a state logic machine for receiving a command (Stohs; Figure 1 Item 108, Col 7 Lines 16-25) to provide the plurality of sequential data words and a control signal indicating reverse order (Stohs; Figure 1 Item 105, Col 7 Lines 16 – 25), wherein the plurality sequential data words comprises first data word and a last data word, and one or more data words between the first data word and the last data word (Stohs; Figure 2 Item 203, Col 5 Lines 13 – 28); a memory controller for fetching (Stohs; Col 6 Lines 18 – 35) a sequential portion of the sequential data words, said sequential portion comprising a first intermediate word, the last word, and one or more data words between the intermediate word and the last word (Stohs; Figure 2 Item 203, Col 5 Lines 13 – 28); a local buffer (Stohs; Figure 1 Item 111) for storing the sequential portion; and a port transmitting (Stohs; Col 9 Lines 36 – 41) at least portion the last data word.

Stohs does not teach wherein the local buffer comprises less than the amount of memory occupied by the plurality of sequential data words in the compressed buffer.

However, Tanaka teaches wherein the capacity of the local buffer is smaller than the compressed data buffer and data is transferred into the local buffer after it is compressed (Tanaka; Col 2 Lines 5 – 12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Stohs to include the smaller memory because doing so would allow for a smaller physical size of the system.

Stohs in combination with Tanaka is silent on a video decoder for decoding the video packet.

However, Katsavounidis teaches a video decoder (Katsavounidis; Abstract, Col 19 Lines 43 – 50, Col 20 Lines 13 – 39) for decoding the video packet (Katsavounidis; Figures 7A and 7B Items 700 and 720, Col 2 Lines 44 – 61) and a circuit adapted to recover useful data from a video packet that is at least partially corrupted (Katsavounidis; Figures 7A and 7B Items 700 and 720, Col 2 Lines 44 – 61, and Col 3 Lines 9 – 38).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the teaching of Stohs in combination with Tanaka to include a video decoder for decoding the video packet because doing so allows for decoding of a packet in both the forward direction and the backward direction which allows locating a position of an error (Katsavounidis; Col 2 Lines 28 – 44).

Stohs in combination with Tanaka and Katsavounidis does not teach transmitting at least a portion the intermediate data words after transmitting at least the portion of the last data word.

However, Boothroyd teaches transmitting the at least another portion of the last word after transmitting at least the portion of the last word (Boothroyd; Col 13 Line 51 – Col 14 Line 26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Stohs in combination with Tanaka and Katsavounidis to include transmitting the intermediate data words after transmitting the last data word because doing so allows multiple variable length operands to be stored in a temporary storage (Boothroyd; Col 1 Lines 44 – 50).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Franklin whose telephone number is (571) 272-0669. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard Franklin
Patent Examiner
Art Unit 2181

Supervisory FRITZ FLEMING PRIMARY EXAMINER 5/8/2006
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